able if these forms are all by-products of one species than if they are all good species under the direct control of the genes.

6.vii.1967.

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# *Nothris verbascella* Hubn. (Lep. Tinaeina) Rediscovered

By J. M. Chalmers-Hunt

Some years ago it occurred to me that this fine Gelechiid might still persist in East Anglia, although so far as was known there appeared to be no record of its having been seen in Britain this century. Accordingly, a search for its foodplant, the very local Hoary Mullein (*Verbascum pulverulentum* Vill.) was undertaken in the Bury St. Edmunds district of Suffolk, but this unfortunately proved a failure. On the afternoon of May 30, 1967, however, I had occasion to visit a locality in Norfolk, kindly indicated to me by Mr. E. G. Swann. There, in a very restricted area in the King's Lynn neighbourhood *V. pulverulentum* was plentiful, and on almost the first plant to be seen, I experienced the gratification of finding a full-grown larva of the "lost" species. I had invited Col. A. M. Emmet and Messrs. S. Wakely and H. E. Chipperfield to accompany me, and together we observed more larvae and at least as many pupae, also, a single imago which H. E. C. took at rest on the foodplant.

It was noticed that, with one exception, all the larvae and pupae found were situated on the undersides of the leaves of the foodplant, and beneath a covering consisting of silk and the mealy white wool of the Mullein, and furthermore, that the larvae were full-grown or mostly so. Twice, I noticed two pupae together under the same covering, and a pupa which A. M. E. found was seen to be sited under a web spun on the *upper* surface of the leaf, but these were clearly exceptional. It is interesting to record that from the larvae and pupae collected, there appeared to be no evidence of parasitism, and with very little if any mortality, each of us reared about ten moths. My first example emerged on June 5, and the last on June 23.

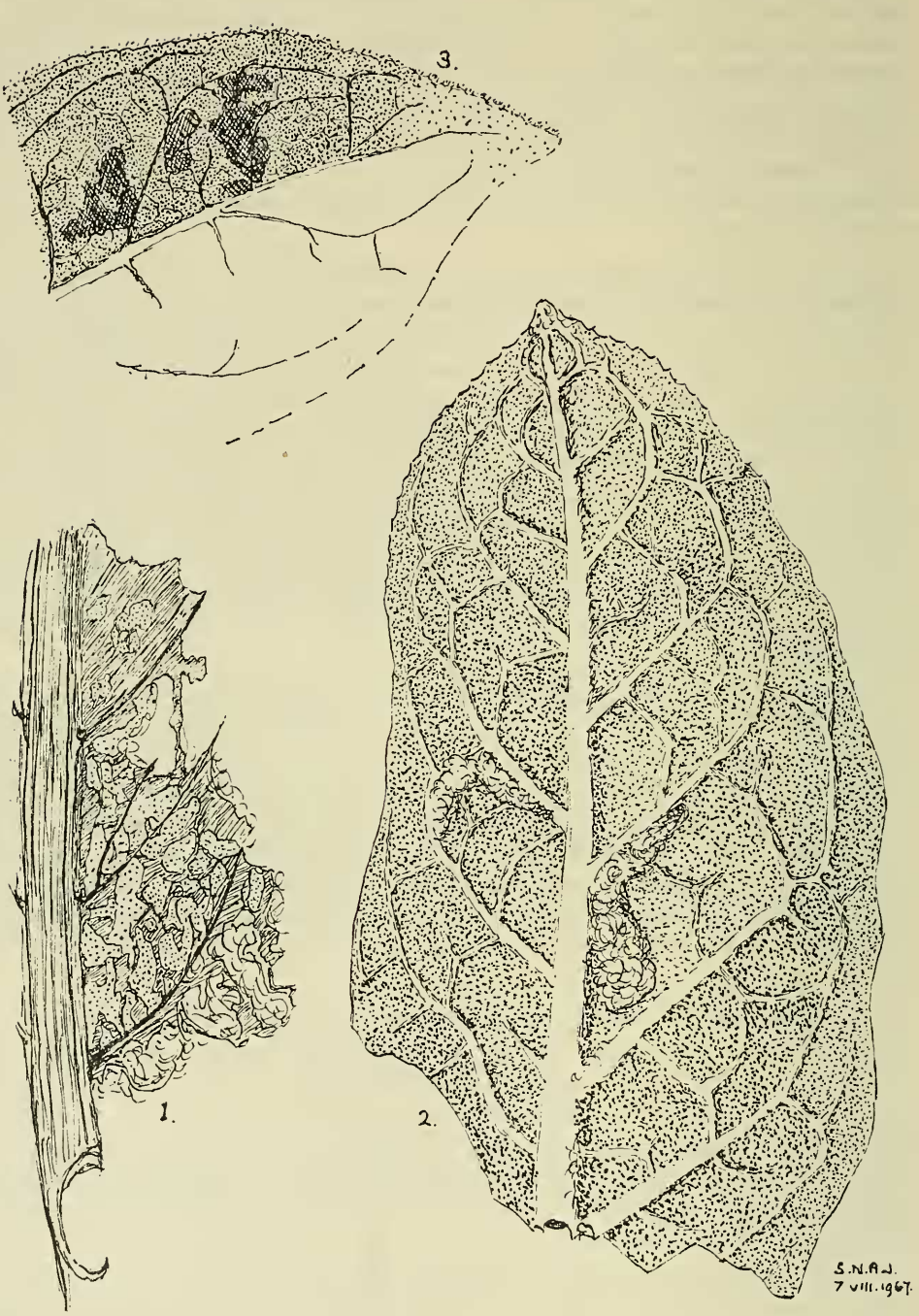
On July 30, with A. M. E., I again visited the spot. On this occasion a number of larvae was noted on the very young leaves at the hearts of the plants, and in one fair-sized leaf, quite small larvae were observed living in galleries. Many of these plants had already flowered, and a few were still in bloom, but there appeared to be no sign at this locality of the larva feeding on the flowers or seeds, a habit of the species which Mr. S. N. A. Jacobs informs me he noticed in Switzerland, and whence he reared his series of the insect. The figures on the accompanying plate are drawn by Mr. Jacobs from material collected on 30th July, and show well the habit of the larva. From two other larvae taken on this date, I bred two moths of evidently a second generation. These appeared on 15th and 30th August, and are appreciably smaller than those of the June emergence.

I know of no illustration of the imago of *N. verbascella* in any work on the British lepidoptera. Meyrick (1927), however, describes it as "16-21 mm. Forewings light ochreous, more or less black-sprinkled; a black dot on base of costa; stigmata black, first discal often absent, plical small; terminal blackish dots. Hindwings grey." "Larva brown; head and plate of 2 black." Stainton (1854) gives highly detailed figures (plt. 4, figs. 12a, 12b, 12c) of the neuration and head of the insect, apparently from drawings by W. Wing, the first to discover the species in Britain. Both Spuler (1908-10) and Eckstein (1922) illustrate the moth, but the colours in each case are too dark.

*N. verbascella* was first noticed in this country by Wing (1853), who exhibited it at a meeting of the Entomological Society of London on September 23, 1853, as "Ypsolophus Verbascellus, a new British species, bred from leaves of Verbascum floccosum, near Norwich". The circumstances of its discovery are outlined by Stainton (1854) thus: "*Verbascella* was bred only last summer by Mr. Wing, from larvae accidentally brought into his garden on some plants of *Verbascum pulverulentum*, from the neighbourhood of Norwich".

Tillett (1858) writing from Norwich on June 14 1858, says: "I have found about a score of larvae and pupae of this insect, and believe I can find more. I think Mr. Wing was not quite correct in stating that the larva turns to pupa in a turned down corner of a leaf", generally it forms a silken cocoon between two of the ribs on the back of the leaf". Two months later, the same observer (1858a) communicating on behalf of himself, J. Reeve and C. Clowes, writes: "We have at last taken the larvae of this insect in abundance. More than a hundred are now in our possession".

Barrett (1869) furnishes a wealth of detailed facts, especially in regard to the habits of the larva, which are so interesting as to warrant repro-




*Nothris verbascella* Hübn.

Fig. 1. Gregarious feeding place of young larvae.
Fig. 2. Feeding places of growing larvae seen from below.
Fig. 3. Feeding places of growing larvae seen from above.

ducing here. He says that on October 20 1869 at the locality indicated by J. Reeve, he found in the undeveloped leaves at the heart of the plants very young larvae already at work which continued to feed slowly all through the winter, and rapidly increased in size in the spring. He adds that at this time and through the spring, "fresh ones appeared to be hatched, for at the end of April, when many larvae were well grown and a few had entered the pupa state, there were still many minute ones, and this continued to be the case till the middle of June; and even as late as July 3rd . . . half-grown larvae were still to be found feeding in the younger leaves and even boring into the leaf stalks and stems. At the same time pupae were to be found in a slight web on the underside of the larger lower leaves, generally in the angle of two ribs, or in a turned-down edge of a leaf". He says that in the wild, he first noticed the moth flying in the evening of June 25th and the last on August 25th, but adds that in the perfect state they are seldom seen. In a later communication, Barrett (1870) notes that there is evidently a partial second brood, as on September 8th 1870, he noticed a large plant of *V. pulverulentum* of which the heart was completely destroyed and on examination found well-grown larvae and a number of pupae, from which imagines emerged throughout that month. He points out that the second brood moths were not nearly so large as the first.

Several *verbascella* in my collection, labelled as bred in 1886 from Norwich larvae supplied by Wheeler [F. D. Wheeler of Norwich], show that the species continued to be taken in Norfolk. On the other hand, it seems it was not until about 1895 that it was first noticed in the adjoining county of Suffolk. Morley *et al.* (1937) state that Frank Norgate found the species about 1899, "abundant in my garden at Bury St Edmunds"; in the BMNH series, are two of Norgate's specimens dated 1896 and 1897; and in my own collection is a specimen labelled "Suffolk 1899". .

I consider it possible the species may yet persist at Norwich, though questionable whether it still does so at Bury St, Edmunds where the plant may have been destroyed. What is certain, however, is that the King's Lynn locality is now the only one where *verbascella* is known to survive in this country, and although very restricted in extent, the area seems reasonably safe from destruction, and the colony of the moth quite strong. Col. Emmet, Messrs. Wakely and Chipperfield have therefore agreed not to disclose the locality.

In conclusion, I do thank Mr. E. L. Swann for much help regarding the distribution of *V. pulverulentum*.

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